

H A N F O R D

PROGRESS

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www.Hanford.gov/reach/

The Office of River Protection: Delivering on commitments



Office of River Protection

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Office of River Protection meets its 2002 goals

The challenges of protecting the river

- Cleaning up of tank waste at the Hanford Site is one of the nation's largest and most complex environmental challenges.
- Fifty-three million gallons, or 60 percent of the volume of the nation's nuclear waste, is stored in Hanford's 177 aging underground tanks.
- The Department of Energy is continuously monitoring the tanks and past tank leaks to protect the environment from any further damage.

The Department of Energy's Office of River Protection, through its management of the River Protection Project, is working to meet the challenges of cleaning up Hanford's waste tanks. Its plans call for safely removing the waste from the tanks, treating the waste, safely storing or disposing of the treated waste and ultimately closing the tanks.

The past year has been a pivotal one in the success of the River Protection Project. It was a year in which the transition from plans to progress was validated by numerous visible and significant accomplishments. Delivering on commitments — in other words, finishing or continuing what was started — is what 2002 has been all about.

Construction started on the Waste Treatment Plant — the largest radiochemical processing facility in the world — to vitrify Hanford's tank waste. Concrete and rebar now form the visible skeletons of the Waste Treatment Plant's major processing facilities.

Notable progress was made on removing liquid waste from Hanford's single-shell tanks, as more than 2.5 million gallons of waste were pumped and transferred to double-shell tanks for safer storage.

The feed-delivery system for tank waste was advanced with miles of additional piping installed to transfer waste from tank to tank and connect the double-shell-tank storage area with the Waste Treatment Plant.

Construction was completed on the Hanford Cold Test Facility, an 800,000-gallon mock-up for testing technologies in an environment that minimizes worker exposure to radiological and chemical hazards.

It was also a year of significant change for the River Protection Project. In October, the Office of River Protection announced new and aggressive performance incentives with its prime tank-farm contractor, CH2M HILL. The performance incentives will accelerate cleanup of the tanks and focus on removing liquids from the tanks, completing the waste- feed delivery system, closing tanks and using supplemental technologies to augment the capacity of the Waste Treatment Plant to treat low-activity waste.

To ensure that waste will be treated quickly and efficiently, the Office of River Protection also worked with Bechtel National, Inc., its prime contractor for designing and constructing the Waste Treatment Plant, to optimize the melter configuration for vitrifying high-level waste and low-activity waste.

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Office of River Protection meets its 2002 goals, cont.

Finally, the Office of River Protection reorganized itself to impose stronger project controls, maintain better contractor accountability and underscore stronger federal “ownership” of the River Protection Project.

While changes in plans for a project as large and complex as tank cleanup at Hanford are inevitable, the commitment of the Office of River Protection to completing tank cleanup — and doing it in a way that protects workers and the environment — will not change. Delivering on safety commitments through safe practices in all its operations is the top priority for the project.

Through Integrated Safety Management, internal oversight by ORP’s facility representatives and the Office of Safety Regulation, and contractor safety initiatives, the Department of Energy and contractor staffs are ensuring that the safety of workers and the public is an integral part of the River Protection Project. ■

AGGRESSIVE GOALS . . . STRONG LEADERSHIP



Roy Schepens,
Manager

Office of River Protection

The Department of Energy’s Office of River Protection manages the storage, retrieval, treatment and disposal of Hanford’s tank waste. ORP provides contract management, safety oversight, and project integration of its prime contractors.

“As ORP’s manager, it is my job to ensure that the River Protection Project is successful in cleaning up Hanford’s tank waste. One of the greatest challenges I face is to avoid the ‘one-size-fits-all’ approach towards treating the tank waste, and to instead question whether we are using the right combination of technologies to safely retrieve, treat and dispose of the waste. While current plans may call for vitrifying all of Hanford’s 53 million gallons of tank waste, in the coming year I will continue to pursue examining better ways to do the job. We need technological solutions that best match

the character of the waste requiring treatment – technologies that are proven to be safe, regulatory compliant, protective of the environment, cost-effective and can do the job quicker. I look forward to working with my contractors, the regulators and Hanford stakeholders to get the waste out of Hanford’s tanks and treat it as soon as possible. This is simply the right thing to do.”



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CH2M HILL Hanford Group, Inc.

CH2M HILL is the Office of River Protection's prime contractor responsible for the storage, retrieval and disposal of Hanford's tank waste. The ultimate goal is to close the Hanford tanks.

"In cooperation with our Department of Energy customer, we have created new and aggressive initiatives focused on risk reduction, mission acceleration and ultimate closure of the Hanford tanks. We are partnering with the Office of River Protection, our regulators and Hanford stakeholders to define the path forward for accomplishing these new tank cleanup initiatives. CH2M HILL is changing the way it does business at Hanford – aligning the company's organizational structure with the new mission and setting aggressive goals that focus on work, not process. Using simple, proven technologies will allow us to safely remove waste and close tanks in a more timely and cost-effective manner. We are taking the first steps toward accomplishing this new mission, working with the Office of River Protection and our Hanford partners as we boldly shape our future."



**Ed Aromi, President
and General Manager**



**Ron Naventi,
Project Director**

Bechtel National, Inc.

Bechtel National, Inc. is the Office of River Protection's prime contractor responsible for the design, construction and startup of the Waste Treatment Plant. Washington Group International, Inc., is BNI's principal subcontractor on the project.

"The Waste Treatment Plant project is focused on safely designing, constructing and commissioning the world's largest vitrification facility. Our mission is to complete and demonstrate a safe, efficient, high-quality and cost-effective facility that maximizes proven vitrification methods to help the U.S. Department of Energy's Office of River Protection meet Tri-Party Agreement milestones. Bechtel National and principal subcontractor Washington Group International are committed to working with local and

regional businesses to complete this vital mission. We have built a strong working relationship with the Hanford Advisory Board and are fully complying with our Washington State Department of Ecology and Department of Health permits to safely complete the Waste Treatment Plant. I look forward to continuing our progress on a facility that will become the cornerstone for solving one of our nation's most challenging environmental problems."

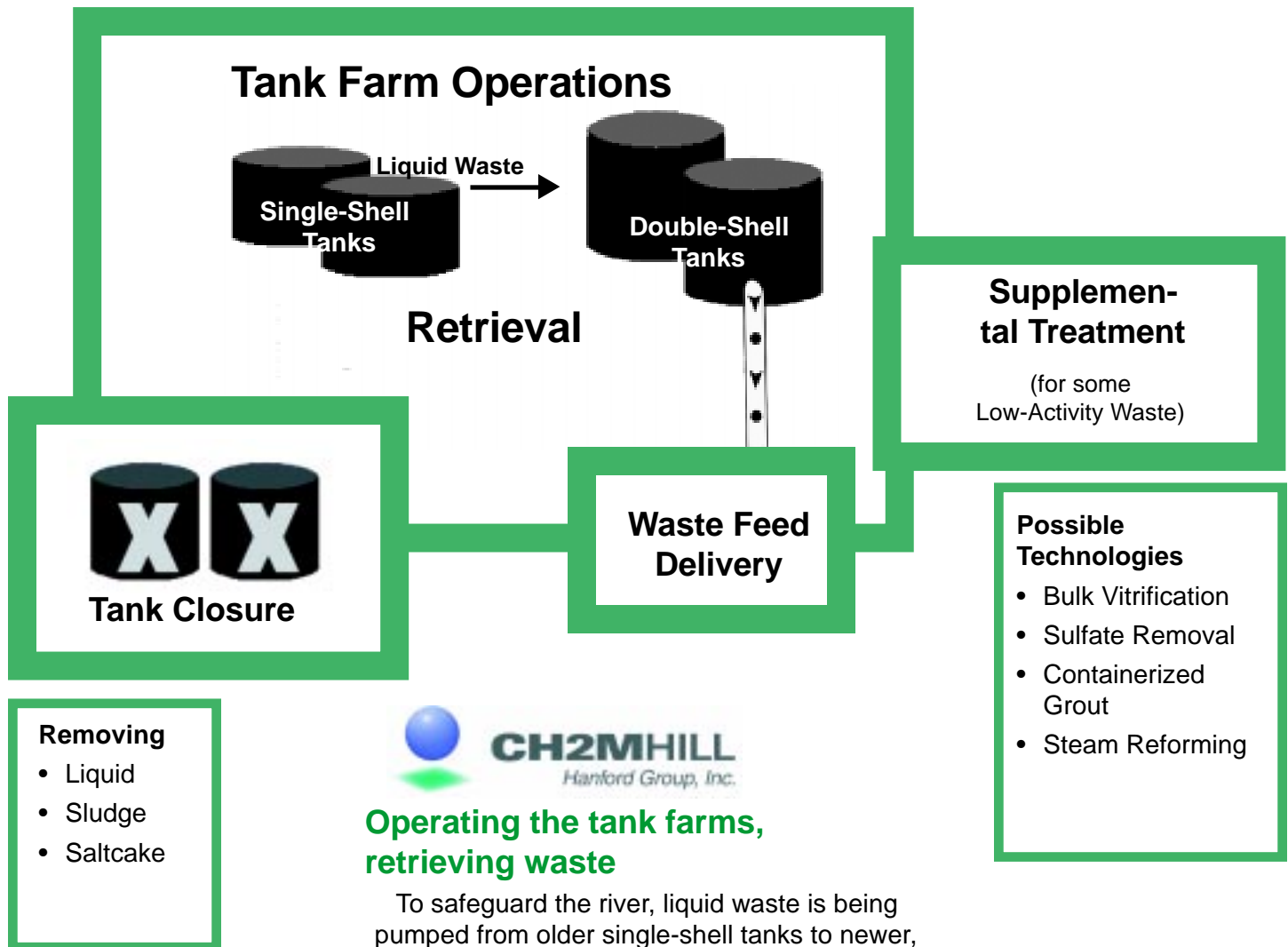


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THE RIVER PROTECTION PROJECT

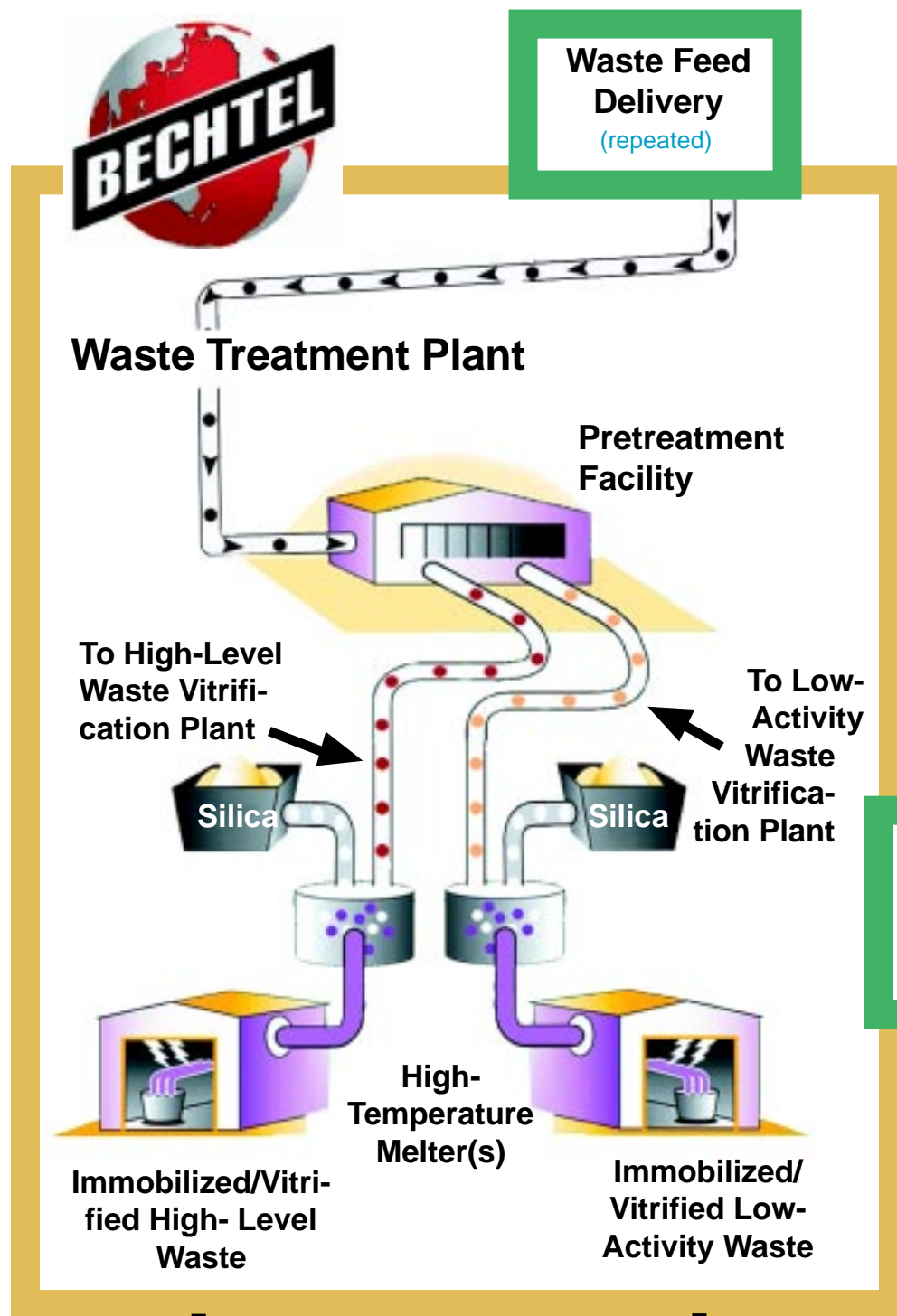


- Contract Management
- Safety Oversight
- Integration



To safeguard the river, liquid waste is being pumped from older single-shell tanks to newer, more durable, double-shell tanks. There the waste will be safely stored until it's retrieved and transferred to the Waste Treatment Plant. Concurrent with these operations is the development of supplemental treatment options for low-level or low-level mixed waste that will not be processed in the Waste Treatment Plant. Eventually, all the Hanford waste tanks will be permanently closed and will pose no threat to the environment.

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Treating the waste

In the pretreatment phase, low-activity waste is separated from high-level waste through a series of steps including evaporation, filtration and ion exchange. Once the waste is separated into high-level and low-activity waste streams, the individual streams are sent to their respective vitrification facilities, where they're mixed with silica and other glass-forming materials to form a slurry. The waste slurry is then fed into high-temperature melters that melt the mixture into a liquid. The liquid is placed into stainless steel canisters or containers, where it cools and hardens into a glass that immobilizes the waste.

Supplemental Treatment

(for some Low-Activity Waste)

Storing and disposing of waste



Canisters of high-level waste will be stored in the Canister Storage Building at Hanford until they are shipped to a federal geologic repository for permanent disposal. Low-activity waste containers will be buried in trenches on the Hanford Site, a safe distance from the Columbia River.

Storage/Disposal



Temporary Storage at Hanford's Canister Storage Building for Vitrified High-Level Waste



Disposal on or off the Hanford Site for Low-Activity Waste

CH2M HILL ACCELERATES TANK CLEANUP

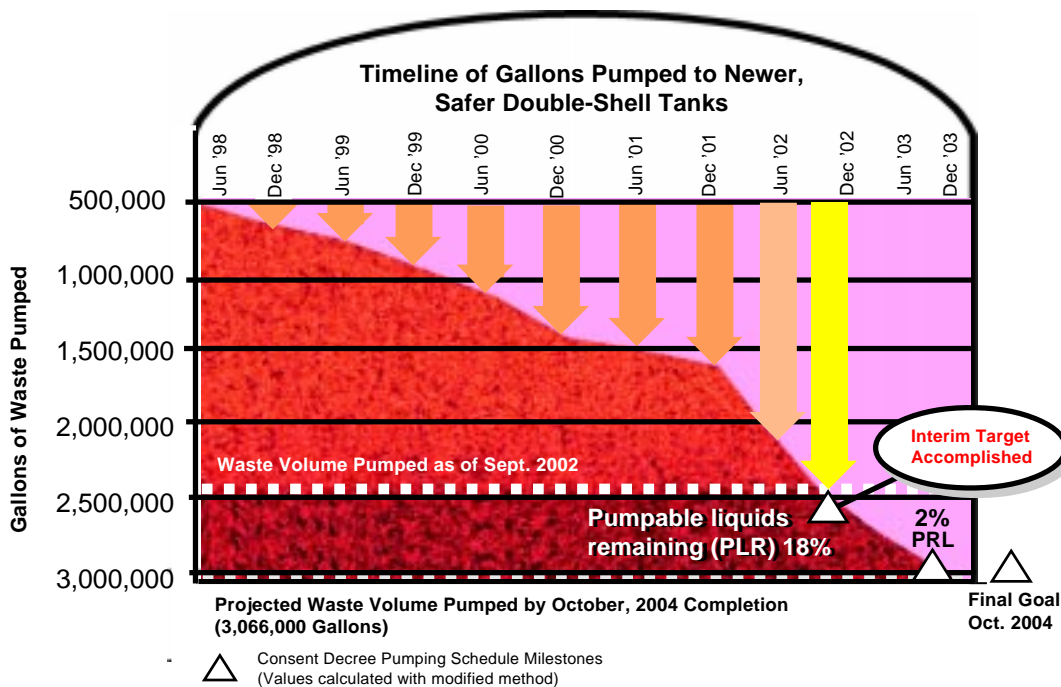


CH2MHILL
Hanford Group, Inc.

The Office of River Protection and CH2M HILL Hanford Group are aligning work at the Hanford tank farms with new goals for accelerating tank cleanup and closure. Discussions have begun with the regulatory agencies — the U.S. Environmental Protection Agency, Washington State Department of Ecology, and the Washington State Department of Health — and Hanford stakeholders on how ORP and CH2M HILL will meet the cleanup goals and regulatory commitments, and continue to protect human health and the environment.

Single-Shell Liquid Waste Pumping

Actual Performance on 29 Single-Shell Tanks



ORP and CH2M HILL are reducing risk by moving liquid waste to newer, safer tanks by Oct. 2004.

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The future of tank cleanup

Key initiatives during the next four years of Hanford tank cleanup include the following:

1. Removing liquid waste from aging single-shell tanks
2. Upgrading systems to deliver tank waste to the Waste Treatment Plant
3. Retrieving waste from and closing single-shell tanks
4. Removing, treating and disposing of transuranic or low-level tank waste without vitrification.

This approach was developed within the framework of the Tri-Party Agreement, the legal pact governing Hanford cleanup, and begins the process for achieving two key components of the site's accelerated cleanup plan: accelerating the retrieval of tank wastes and closing Hanford tanks 10 years earlier than planned.

Under the **first initiative**, the removal of pumpable liquids from aging single-shell tanks will be completed. In September, ORP and CH2M HILL achieved a major milestone by removing 2.5 million gallons of liquid waste from the tanks since pumping operations began in 1998. Since September, an additional 115,000 gallons of waste have been removed. Pumping operations on the last single-shell tank, C-103, began on Nov. 29, five months ahead of schedule. Waste-removal operations are now under way on all 16 single-shell tanks, which contain approximately 460,000 gallons of pumpable liquid waste.

Under the **second initiative**, systems to deliver waste to the Waste Treatment Plant and systems to transport, store and dispose of glassified containers of treated waste will be upgraded. Preparations to deliver waste include upgrading several of Hanford's double-shell tank farms for transferring and "staging" the waste before it is sent to the Waste Treatment Plant.

Under the **third initiative**, 26 single-shell tanks will be closed in the next four years. CH2M HILL will remove waste from and "interim-close" single-shell Tank C-106, the first Hanford tank identified for closure. CH2M HILL will also complete retrieving waste and closing 25 additional high-risk and low-risk, low-volume single-shell tanks. Pending success with the 26 tanks, CH2M HILL will seek to close an additional 14 tanks to meet the goal of closing 40 tanks as outlined in Hanford's accelerated cleanup plan.

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The future of tank cleanup, cont.



Tank-farm employees prepare to lift a waste-transfer pump out of double-shell Tank AP-101 earlier this month. The work is part of a larger effort to prepare several double-shell tanks to serve as staging points for waste that's retrieved from other tanks and will be sent to the Waste Treatment Plant.

The **final initiative** involves retrieving and treating a million gallons of transuranic and low-level tank waste using non-WTP techniques. Specifically, CH2M HILL will remove transuranic waste from double-shell tanks and treat and package the waste for eventual shipment to the Waste Isolation Pilot Plant facility in New Mexico. Removing the transuranic waste from the double-shell tanks will create needed space for moving waste from single-shell tanks, and provide a cost-effective alternative to immobilizing the waste in glass. Under this initiative CH2M HILL will also identify, retrieve and treat low-level or low-level mixed waste for disposal on or off the Hanford Site. ■

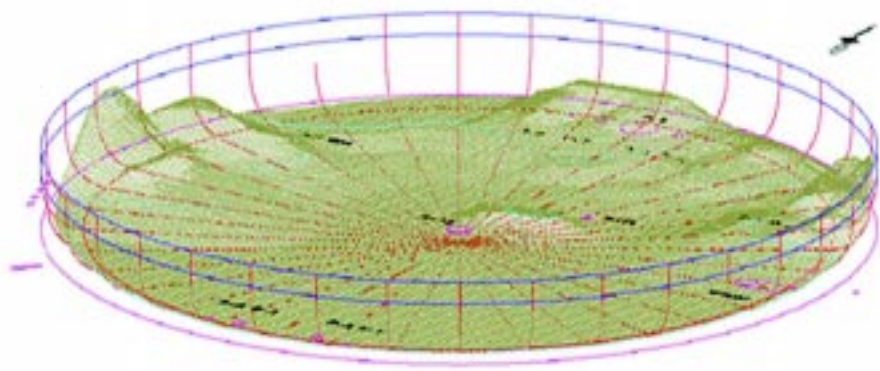
Tank closure acceleration strategy will be based on Tank C-106 experience

To participate in the important discussion and critical decisions on closing Hanford tanks, all of the parties — the Office of River Protection, regulators, tribal nations, elected officials, CH2M HILL and the various stakeholders — need information.

The first Hanford tank selected for waste retrieval and closure, single-shell Tank C-106, contains approximately 30,000 gallons of liquid waste and approximately 6,000 gallons of sludge-like waste. Retrieval operations to remove waste from the tank will begin in early 2003. Information from this operation will help guide further discussion on how Hanford tank closure should be accomplished. The discussion will focus on the following questions:

- What retrieval technologies have been most successful?
- How will the tank structure be stabilized after the waste is removed?

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Three-dimensional image of the bottom portion of single-shell Tank C-106 and its waste inventory (August 2002).

Approximately 95 percent of the waste was removed from single-shell Tank C-106 to solve a high-heat issue in 1998-1999, leaving approximately 36,000 gallons of waste in the tank.

Tank C-106 to make history... again

Tank C-106 is an underground storage tank that is as old as the Hanford Site itself; it is among the first of 177 tanks that were built during Hanford's 60-year history. The tank was built in 1943, during World War II, part of the effort to build the atomic bomb during the top-secret Manhattan Project.



The Cold War had already begun by the time Tank C-106 went into service in 1947, when it received its first radioactive and hazardous waste from a nearby tank. Tank C-106 was built to hold more than half a million gallons of waste. By 1964, a total of 149 single-shell tanks had been built at Hanford.



Many of the single-shell tanks were constructed during World War II.

During the Cold War, the focus at Hanford was on production to increase the nation's nuclear weapons stockpile. To further expand the site's waste-storage capacity, in 1968, Hanford switched to a tank design with two steel walls. Despite the addition of new tanks, Hanford continued to depend on the older single-shell tanks like Tank C-106.

With safety measures in place, the tank faded from view during the 1980s. In 1991, Tank C-106 was

All 149 single-shell tanks were finally removed from service by November 1980 and were no longer allowed to receive waste. Before Tank C-106 was taken out of service in 1979, the tank received from the B Processing Plant — by mistake — a batch of waste that was high in strontium-90. With the addition of this waste, temperatures in the tank immediately began to rise. Six thousand gallons of water had to be added to the tank each month to prevent the waste from boiling.

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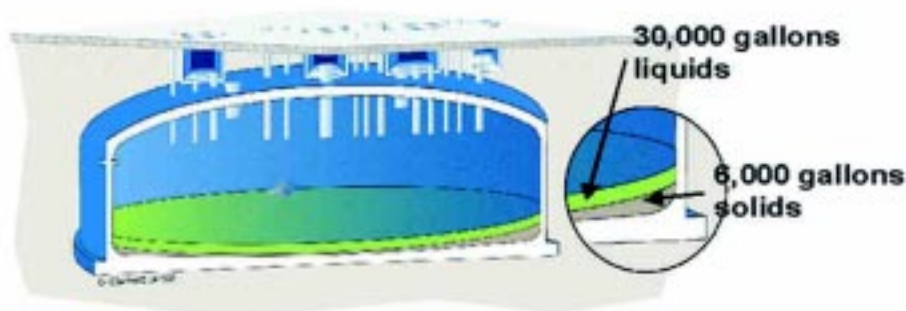
Tank C-106 to make history. . . again, cont.

added to a congressional watch list of dangerous tanks because of the high-heat problem. The watch list grew to include 60 tanks because of safety problems involving high heat, ferrocyanide, flammable gas buildup and organic waste.

Plans were developed to pump the waste out of Tank C-106 to solve the heat problem. It took a few years to address additional safety concerns about equipment and procedures, but in 1998 and 1999, most of the waste was transferred to a double-shell tank. By August 2001, Tank C-106 was among the 60 tanks taken off the congressional watch list. The safety problems in all 60 had been solved.

The landscape of Hanford tank cleanup is changing. To dramatically reduce risk to human health and the environment more quickly, the Department of Energy, CH2M HILL, regulatory agencies and Hanford stakeholders are focusing on new initiatives for retrieving waste and closing the tanks. The new initiatives call for retrieving waste from, and closing up to, 40 single-shell tanks by October 2006.

Tank C-106 is the first tank slated for retrieval and closure. DOE, CH2M HILL, the regulators and Hanford stakeholders will determine the future of Tank C-106 and the pathway for cleaning up and closing Hanford tanks. ■



Cutaway of single-shell Tank C-106



Single-shell Tank C-106 contains both liquid waste and sludge.

BECHTEL BUILDS WASTE TREATMENT PLANT



WTP Project skilled craft workers place concrete for a perimeter basement wall of the Low-Activity Waste vitrification facility in early October. Craft workers' attention to safety, efficiency and quality yielded more than \$5.7 million in construction savings during 2002.

2002: A year of visible progress

Since October 2001, the Department of Energy's Office of River Protection and the Bechtel National-led Waste Treatment Plant Project team have made significant visible progress in safely constructing the world's largest vitrification facility on Hanford's central plateau.

The project's approach to design and construction is shaping a trio of major facilities that will turn Hanford's highly radioactive tank waste into glass beginning in 2007.

The Department of Energy awarded Bechtel National a 10-year contract in December 2000 to design, build and commission a Waste Treatment Plant to immobilize Hanford's tank waste. The plant will use a process known as vitrification to immobilize the chemical and radioactive waste now stored in Hanford's 177 aging underground tanks.

Construction efforts over the past year in Hanford's 200 East Area have focused on doing underground utility work and placing the thick concrete foundations and basements for the WTP's Low-Level Waste, High-Level Waste and Pretreatment facilities.

The WTP Project also assembled two on-site concrete batch plants to support continuing concrete-placing activities, and completed the infrastructure to support ongoing construction.

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2002: A year of visible progress, cont.

In November, the WTP Project received full-construction authorization to proceed with above-ground construction of the Low-Activity and High-Level Waste facilities, Pretreatment facility pits, tunnels and basemat, and selected portions of other facility structures. ■

Construction update *(as of October)*

- Earth moved. 310,000 cubic yards
- Underground piping installed. . . 55,000 feet
- Electrical wiring used. 56,000 feet
- Reinforcing steel installed. 7,900 tons
- Steel embeds used. 175,000 pounds
- Forms placed. 25,300 square feet
- Concrete poured. 18,900 cubic yards

Concrete work begins nearly five months ahead of schedule

WTP Project construction workers began placing important-to-safety concrete for the five-foot-thick Low-Activity Waste and High-Level Waste vitrification facilities' foundations in late July 2002 — nearly five months ahead of the milestone date in the Tri-Party Agreement.

The WTP Project, DOE's Office of River Protection and the Washington State Departments of Ecology and Health, in conjunction with the U.S. Environmental Protection Agency, are using an innovative phased approach to permitting. The approach allows foundation work to go forward before the facilities are fully designed. As a result, permits that normally would take years to obtain took just months. ■



Construction workers pour the first structural concrete for the Waste Treatment Plant in July 2002.

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\$133 million in contracts go to Washington, Oregon businesses

Bechtel National's proposal and the subsequent contract with the Department of Energy specify a goal of placing 46 percent of procurements — a total of more than \$1.1 billion over the 10-year life of the project — with small businesses.

Involving small businesses

So far, \$283 million worth of procurements have been awarded on the Waste Treatment Plant Project as of the end of September. Of those, \$165 million, or 58 percent, have gone to small businesses.

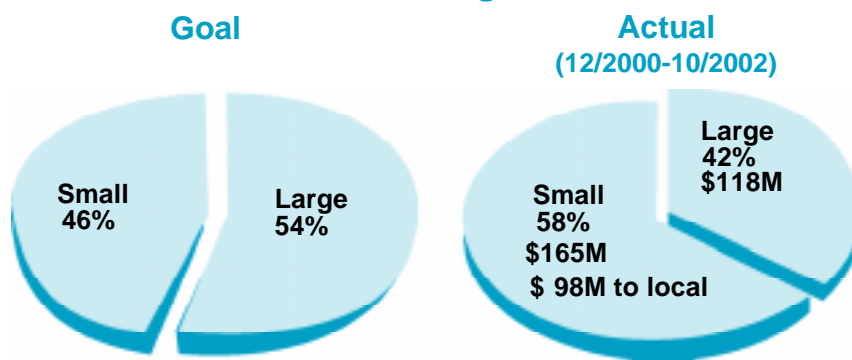
Spending locally in the Mid-Columbia

Local procurements are those made to Washington and Oregon businesses. Nearly half of all WTP Project procurements, \$133 million worth, have gone to these local businesses. Mid-Columbia companies have won nearly three-quarters of those local-business awards, worth \$98 million. Overall, 35 percent of all procurements have been awarded to Tri-Cities businesses.

More business opportunities await

The WTP Project is offering local small businesses millions of dollars worth of opportunities — in the short term during construction, and in the long term for operation of the plant. For more information about Bechtel National's procurement approach and business opportunities with the WTP Project, visit www.ebechtel.com on the Internet.

Subcontracting Plan



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WTP Project team members Marla Wright and Jerry Fasso are two of the 3,000 employees who have worked more than 6.5 million hours without a lost-time accident.

WTP employees surpass 7 million safe work hours

Waste Treatment Plant Project employees are maintaining the project's goal of zero lost-time accidents by surpassing 7 million hours without a lost workday.

The safety milestone was reached by nearly 3,000 employees, manual and non-manual laborers alike, who have worked without a lost-time accident in the field and in the project offices while designing and constructing the WTP.

In addition to the project's ongoing safety success, WTP employees are having fewer Occupational Safety & Health Administration recordable injuries at work in comparison with similar industry environments. As of November, WTP employees have a recordable-injury rate of 0.66, meaning there is less than one recordable injury among the employee population for each month worked on the project.

The WTP Project's Integrated Safety Management System and its employee-based safety organizations and programs such as Safety Education Through Observation, Accident Prevention and Safety Quality councils and the Lessons Learned program are helping workers return home safely each day and remain accident-free. ■

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Finding a safe solution for Hanford's hazardous waste



Although initial construction is well under way, the Waste Treatment Plant continues to pursue modifications that will solve Hanford's tank-waste problem more quickly and efficiently.

One major adjustment is to install two high-level waste melters as part of the initial plant. This is an important change from the original configuration of a single melter for the high-level waste and three low-activity waste melters.

"Conventional wisdom says that vitrification — immobilizing radioactive waste in glass — is a proven technology for treating Hanford's high-level tank waste," said Ron Naventi, project director of the Waste Treatment Plant. "While vitrification is a proven technology, well suited for Hanford's highest-risk radioactive waste, it isn't necessarily the best answer for the low-activity waste."

Improvements in melter technology and the addition of a second high-level waste melter now will allow the Waste Treatment Plant to process high-level radioactive waste into a sturdy glass four times faster than originally anticipated. This means that all of Hanford's high-level waste can be vitrified by the 2028 Tri-Party Agreement deadline. That's 20 years sooner than previously planned. To offset the cost of adding the second melter, two rather than three low-activity melters will be installed in the initial plant.

In the WTP pretreatment process, high-level waste is separated from the bulk waste, leaving chemical wastes containing low levels of radioactivity. A significant portion of the remaining low-activity waste suitable for vitrification will be made into glass. But some of the chemicals don't mix well with glass, greatly reducing the amount of waste contained in each glass log. Based on the improvements in melter performance, the two low-activity waste melters will provide approximately the same vitrification capacity as the three melters in the original privatization plan.

However, vitrifying the low-activity waste is expensive and time-consuming. Even with three melters for the low-activity waste and the increased performance, vitrifying all of the low-activity waste would not be complete until 2046. That is why other technologies are being investigated to treat some of Hanford's low-activity tank waste.

Any alternate technology or combination of technologies for treating Hanford's low-activity waste must be proven to be safe and must comply with regulations, protect the environment and be cost-effective.

"Our job is to take the waste from Hanford's aging tanks and to treat and stabilize it as soon as possible, protecting the Columbia River and the people of the Pacific Northwest," said Naventi. "This approach — vitrification of all high-level waste and a combination of vitrification supplemented with other proven technologies for low-activity waste — is the best way to safely treat and immobilize all of Hanford's tank waste by the 2028 Tri-Party Agreement deadline." ■



ENSURING THAT SAFETY IS THE TOP PRIORITY

OSR ensures that safety is integrated into WTP design

The Office of Safety Regulation is an internal safety oversight office within the Office of River Protection that reports directly to the ORP manager. OSR has the responsibility for overseeing all of the safety aspects associated with the Waste Treatment Plant and ensuring that safety is fully integrated into the design, construction and eventual operation of the facility.

OSR performs nuclear safety review, approval, inspection and verification activities. The OSR is independent from, and equal in importance to, the ORP program offices that oversee the design and engineering details of the Waste Treatment Plant. OSR's independence preserves the integrity of the safety evaluation process and helps to ensure that safety remains the top priority.



Workers safely change a jumper in a tank-farm valve pit.



Construction activities to prepare for transferring waste to the Waste Treatment Plant were safely performed in an unprecedented five tank farms in the past year.

OSR reviews and evaluates the safety criteria for each of the major facilities that will make up the Waste Treatment Plant. These safety criteria include the following: hazard and accident analyses; "important-to-safety" systems, structures and components; radiation protection; procedures and training; waste and hazardous waste management; operational safety and emergency preparedness. ■

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Defense Nuclear Facilities Safety Board provides safety oversight to River Protection Project

The Defense Nuclear Facilities Safety Board is the key external oversight agency that helps the Office of River Protection ensure the safety of workers, the public and the environment in all aspects of the River Protection Project. The DNFSB operates as an independent federal agency that provides safety oversight. The DNFSB has nine members and is chaired by John Conway.

The DNFSB has representatives at each site in the DOE complex who provide safety-related information and findings to DNFSB Headquarters in Washington, D.C. on a weekly basis. Mark Sautman and Dave Grover are the Hanford Site DNFSB representatives.

The DNFSB also regularly performs on-site reviews to examine the implementation of safety policies and procedures at a site. Recently the DNFSB conducted an on-site review of the structural design and supporting analysis of the Low-Activity Waste and High-Level Waste vitrification facilities. Of the 10 on-site reviews planned at Hanford for the first quarter of this fiscal year, eight are focused on the River Protection Project.

A DNFSB review may result in: no action; further investigation on an informal basis; an informal recommendation for preventive or corrective actions; or a formal recommendation to the Secretary of Energy that a specific action be taken. To date, the River Protection Project has never received a formal recommendation from the DNFSB.

The DNFSB is critical for building confidence and credibility in the safety-related activities associated with the River Protection Project. ■

Contractors' safety initiatives implement Integrated Safety Management principles

The Office of River Protection's prime contractors, CH2M HILL Hanford Group and Bechtel National, Inc., are implementing the principles of Integrated Safety Management through safety initiatives that minimize risk to workers.

Bechtel National created a Safety Education Through Observation, also known as SETO, team to reinforce positive work behaviors and immediately correct at-risk behaviors in the field. SETO was developed for, and is practiced by craft workers. SETO is a "no-name, no-blame" approach where craft workers observe one another performing tasks and evaluate how safely the tasks are completed. The workers communicate with one another on ways tasks can be completed safer. The SETO team identifies trends associated with behaviors and works to lower at-risk trends and implement positive reinforcement of safe behaviors.

CH2M HILL Hanford Group is focusing on reducing risk through innovations in job design. A state-of-the-art computer analysis ranks each job by risk factors to make sure work happens safer, smarter and faster. Aspects addressed in job design include: enhanced implementation of engineering, administrative and personal protective equipment; simultaneous approval of work instructions and hazard analysis; real-time update of identified hazards and controls resulting from workscope changes; and training requirements identified, based on hazard analysis. ■

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ORP facility representatives evaluate safety and operations on site

The Office of River Protection has seven facility representatives working for the River Protection Project. Facility representatives are highly trained individuals who provide in-field, on-site evaluations of safety and operations of ORP's contractors. In addition to their internal safety oversight role, the facility representatives also act as the eyes and ears of senior management by witnessing all important aspects of tank farm and Waste Treatment Plant operations.

To qualify as a facility representative, it takes a year of specialized training in Department of Energy and Hanford safety requirements, engineering principles, contractor organization and authorization basis, and DOE and contractor schedules. After a minimum of three oral boards and two written exams, an individual receives an authorized qualification card and begins on-the-job training with an experienced facility representative. Every three years, facility representatives need to re-qualify to ensure they stay current with any changes in the Facility Representative Standard. ■

ORP facility representatives

- Mark Brown, West Tank Farms
- Glyn Trenchard, East Tank Farms
- Brandon Williamson, East Tank Farms
- Ben Harp, Interim Stabilization
- Ken Wade, Characterization Project Office
- Steve Pfaff, Projects Authorization Bases
- Brian Harkins, Waste Treatment Plant